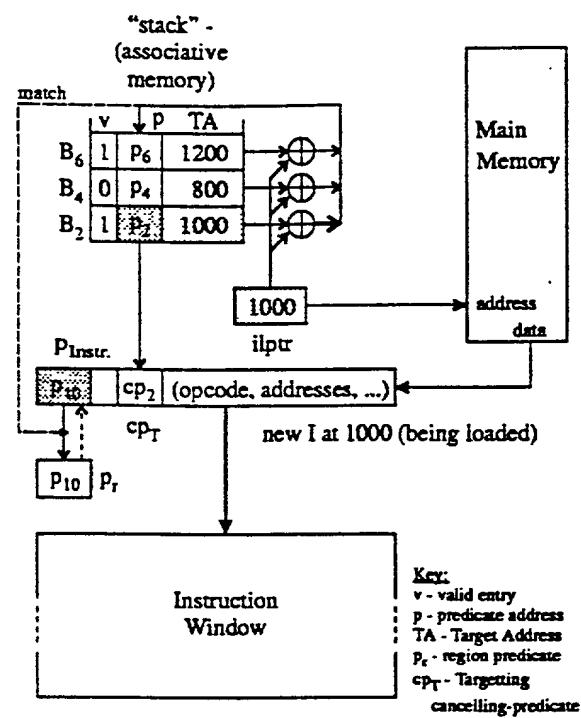


FIG. 1



Snapshot taken at $t = 94$ of Example 5.
 - new I matches target address in stack

FIG. 2

load time	address	code	predicate-assignment (at load time)				predicate-use (at code execution time)			
			B	v	p	TA	$p_{in} = p_r$	cp_{in}	p_{out}	cp_{out}
1	100	I_1				empty	1	0	$p_I = 1$	-
2	200	B_2								
		if (bc_2) goto 400	B_2	1	P_2	400	1	0	$p_2 = \bar{bc}_2$	bc_2
3	300	I_3					P_2	0	-	-
4	400	$I_4 \leftarrow$				empty	P_2	cp_2	$\bar{bc}_2 + bc_2$	-
5	500	I_5				empty	P_4	0	-	-
6	600	B_6					P_4	0	$\bar{bc}_6 \cdot p_4$	$bc_6 \cdot p_4$
7	700	I_7					P_6	0	-	-
8	800	$I_8 \leftarrow$				empty	P_6	cp_6	$\bar{bc}_6 + bc_6$	-
9	900	I_9				empty	P_8	0	-	-

Equations - for "T": $p_I = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \bar{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 3

load time	address	code	z = x op y	predicate-assignment (at load time)				predicate-use (at code execution time)				
				B	v	p	TA	$p_{in} = p_r$	cp_{in}	p_{out}	cp_{out}	p_I - condition for I execution
1	100	I_1					empty	1	0	$p_1 = 1$	-	1
2	200	B_2	if (bc_2) goto 800	B_2	1	P_2	800	1	0	$p_2 = \bar{bc}_2$	bc_2	1
3	300	I_3		B_2	1	P_2	800	P_2	0	-	-	\bar{bc}_2
4	400	B_4	if (bc_4) goto 600	B_4	1	P_4	600	P_2	0	$\bar{bc}_4 \cdot p_2$	$bc_4 \cdot p_2$	1
				B_2	1	P_2	800					
5	500	I_5		B_4	1	P_4	600	P_4	0	-	-	$\bar{bc}_2 \cdot \bar{bc}_4$
				B_2	1	P_2	800					
6	600	I_6	←	B_2	1	P_2	800	P_4	cp_4	$p_4 + cp_4$	-	$\bar{bc}_4 \cdot \bar{bc}_2 + bc_4 \cdot \bar{bc}_2 = \bar{bc}_2$
				B_2	1	P_2	800	P_6	0	-	-	\bar{bc}_2
7	700	I_7					empty	P_6	cp_2	$p_6 + cp_2$	-	$\bar{bc}_2 + bc_2 = 1$
8	800	I_8	←				empty	P_8	0	-	-	1
9	900	I_9					empty					

Equations - for "T": $p_I = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \bar{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 4

load time	address	code	z = x op y	predicate-assignment (at load time)			predicate-use (at code execution time)		
				stack			$p_{in} = p_T$	p_{out}	cp_{out}
1	100	I_1	$z = x \text{ op } y$	B	v	p	TA	$p_{in} = p_T$	cp_{in}
							empty	1	0
2	200	B_2	if (bc_2) goto 600	B_2	1	P_2	600	1	0
								$p_2 = \bar{bc}_2$	bc_2
3	300	I_3		B_2	1	P_2	600	p_2	0
								-	-
4	400	B_4	if (bc_4) goto 800	B_4	1	P_4	800	p_2	0
				B_2	1	P_2	600	$\bar{bc}_4 \cdot p_2$	$bc_4 \cdot p_2$
5	500	I_5		B_4	1	P_4	800	p_4	0
				B_2	1	P_2	600	-	-
6	600	I_6		B_4	1	P_4	800	p_4	cp_2
				B_2	0	P_2	600	$p_4 + cp_2$	-
7	700	I_7		B_4	1	P_4	800	p_6	0
				B_2	0	P_2	600	-	-
8	800	I_8			empty			p_6	cp_4
								$p_6 + cp_4$	-
9	900	I_9			empty			p_8	0
								-	-

Equations - for "T": $p_I = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \bar{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 5

load time	address	code	z = x op y	predicate-assignment (at load time)				predicate-use (at code execution time)			
				stack				$p_{in} = p_r$	cp_{in}	p_{out}	cp_{out}
1	100	I ₁		B	v	p	TA				
			empty								
2	200	B ₂	if (bc ₂) goto 1000	B ₂	1	P ₂	1000	1	0	$p_2 = \bar{bc}_2$	bc_2
3	300	I ₃		B ₂	1	P ₂	1000	p_2	0	-	\bar{bc}_2
4	400	B ₄	if (bc ₄) goto 800	B ₄	1	P ₄	800	p_2	0	$\bar{bc}_4 \cdot p_2$	$bc_4 \cdot p_2$
				B ₂	1	P ₂	1000				
5	500	I ₅		B ₄	1	P ₄	800	p_4	0	-	$\bar{bc}_4 \cdot \bar{bc}_2$
				B ₂	1	P ₂	1000				
6	600	B ₆	if (bc ₆) goto 1200	B ₆	1	P ₆	1200	p_4	0	$\bar{bc}_6 \cdot p_4$	$bc_6 \cdot p_4$
				B ₄	1	P ₄	800				
				B ₂	1	P ₂	1000				
7	700	I ₇		B ₆	1	P ₆	1200	p_6	0	-	$\bar{bc}_6 \cdot \bar{bc}_4 \cdot \bar{bc}_2$
				B ₄	1	P ₄	800				
				B ₂	1	P ₂	1000				
8	800	I ₈		B ₆	1	P ₆	1200	p_6	cp_4	$p_6 + cp_4$	-
				B ₄	0	P ₄	800				$(\bar{bc}_6 \cdot \bar{bc}_4 \cdot \bar{bc}_2) + (bc_4 \cdot \bar{bc}_2)$
				B ₂	1	P ₂	1000				$= (\bar{bc}_6 + bc_4) \bar{bc}_2$
9	900	I ₉		B ₆	1	P ₆	1200	p_8	0	-	$(\bar{bc}_6 + bc_4) \bar{bc}_2$
				B ₄	0	P ₄	800				
				B ₂	1	P ₂	1000				
10	1000	I ₁₀		B ₆	1	P ₆	1200	p_8	cp_2	$p_8 + cp_2$	-
											$((\bar{bc}_6 + bc_4) \bar{bc}_2) + bc_2$
											$= \bar{bc}_6 + bc_4 + bc_2$
11	1100	I ₁₁		B ₆	1	P ₆	1200	p_{10}	0	-	$\bar{bc}_6 + bc_4 + bc_2$
12	1200	I ₁₂			empty				p_{10}	cp_6	$p_{10} + cp_6$
					empty						-
13	1300	I ₁₃			empty				p_{12}	0	-
					empty						1

Equations - for "T": $p_i = p_{out} = p_{in} + cp_{in}$; for "B": $p_{out} = \bar{bc} \cdot p_{in}$, $cp_{out} = bc \cdot p_{in}$

FIG. 6